

### **E. Twenty-Four Hour Reporting**

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR §122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR §122.41(l)(6)(ii)):
  - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR §122.41(l)(6)(ii)(A).)
  - b. Any upset that exceeds any effluent limitation in this Order. (40 CFR §122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR §122.41(l)(6)(iii).)

### **F. Planned Changes**

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR §122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 CFR §122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR §122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR §122.41(l)(1)(iii).)

### **G. Anticipated Noncompliance**

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 CFR §122.41(l)(2).)

### **H. Other Noncompliance**

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 CFR §122.41(l)(7).)

### **I. Other Information**

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 CFR §122.41(l)(8).)

## **VI. STANDARD PROVISIONS – ENFORCEMENT**

- A.** The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

## **VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS**

### **A. Publicly-Owned Treatment Works (POTWs)**

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 CFR §122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 CFR §122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 CFR §122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 CFR §122.42(b)(3).)

## ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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## **ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)**

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and state regulations.

### **I. GENERAL MONITORING PROVISIONS**

- A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of this Regional Water Board.
- B. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the Discharger, analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.
- C. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services. Laboratories that perform sample analyses shall be identified in all monitoring reports.
- D. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.
- E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

## II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

**Table E-1. Monitoring Station Locations**

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	A location where a representative sample of the influent into the Facility can be collected.
001	EFF-001	Downstream from the last connection through which wastes can be admitted into the outfall to the North Fork Calaveras River.
--	LND-001	A location where a representative sample of the effluent to the Designated Land Disposal Area (DLDA) can be collected.
--	RSW-001	100 feet upstream from the point of discharge in the North Fork Calaveras River.
--	RSW-002	250 feet downstream from the point of discharge in the North Fork Calaveras River.
--	GW-001	Groundwater monitoring well (identified as MW-1 in the Discharger's Groundwater Monitoring Reports).
--	GW-002	Groundwater monitoring well (identified as MW-2 in the Discharger's Groundwater Monitoring Reports).
--	GW-003	Groundwater monitoring well (identified as MW-3 in the Discharger's Groundwater Monitoring Reports).
--	BIO-001	A location where a representative sample of biosolids can be obtained.
--	SPL-001	A location where a representative sample of the municipal water supply can be obtained.

## III. INFLUENT MONITORING REQUIREMENTS

### A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the Facility at INF-001 as follows:

**Table E-2. Influent Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency <sup>1</sup>	Required Analytical Test Method
Flow	MGD	Meter	Continuous	--
<b>Conventional Pollutants</b>				
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	24-Hour Composite	1/Week	<sup>2</sup>
Total Suspended Solids	mg/L	24-Hour Composite	1/Week	<sup>2</sup>
<b>Non-Conventional Pollutants</b>				
Electrical Conductivity @	µmhos/cm	Grab <sup>3</sup>	1/Quarter	<sup>2</sup>

Parameter	Units	Sample Type	Minimum Sampling Frequency <sup>1</sup>	Required Analytical Test Method
25°C				
Total Dissolved Solids	mg/L	Grab	1/Quarter	<sup>2</sup>

<sup>1</sup> When discharging to the North Fork Calaveras River, influent samples shall be collected at approximately the same time as effluent samples. Influent monitoring shall be conducted regardless of whether the discharge is to land or surface waters.

<sup>2</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

<sup>3</sup> A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

#### IV. EFFLUENT MONITORING REQUIREMENTS

##### A. Monitoring Location EFF-001

- The Discharger shall monitor treated wastewater at EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding minimum level:

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type <sup>1</sup>	Minimum Sampling Frequency <sup>2</sup>	Required Analytical Test Method
Flow	MGD	Meter	Continuous	--
<b>Conventional Pollutants</b>				
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	24-Hour Composite	1/Week	<sup>3</sup>
	lbs/day	Calculate	1/Week	<sup>3</sup>
pH	standard units	Grab <sup>4</sup>	1/Day	<sup>3</sup>
Total Suspended Solids	mg/L	24-Hour Composite	1/Week	<sup>3</sup>
	lbs/day	Calculate	1/Week	<sup>3</sup>
<b>Priority Pollutants</b>				
Bis (2-ethylhexyl) Phthalate	µg/L	Grab <sup>5</sup>	1/Month	<sup>3,6</sup>
Chlordane	µg/L	Grab	1/Month	<sup>3,6</sup>
Copper, Total Recoverable	µg/L	Grab	1/Month	<sup>3,6</sup>
Cyanide, Total (as CN)	µg/L	Grab	1/Month	<sup>3,6</sup>
Dichlorobromomethane	µg/L	Grab	1/Month	<sup>3,6</sup>
Zinc, Total Recoverable	µg/L	Grab	1/Month	<sup>3,6</sup>
<b>Non-Conventional Pollutants</b>				
Aluminum, Total Recoverable	µg/L	Grab	1/Quarter	<sup>3,7</sup>
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Week <sup>8,9</sup>	<sup>3</sup>
	lbs/day	Calculate	1/Week	<sup>3</sup>
Chlorine, Total Residual	mg/L	Meter	Continuous <sup>10</sup>	<sup>3</sup>
Diazinon	µg/L	Grab	1/Month	<sup>3</sup>
	lbs/day	Calculate	1/Month	<sup>3</sup>
Dissolved Oxygen	mg/L	Grab <sup>3</sup>	1/Day	<sup>3</sup>
Electrical Conductivity @ 25°C	µmhos/cm	Grab <sup>3</sup>	1/Week	<sup>3</sup>
Hardness (as CaCO <sub>3</sub> )	mg/L	Grab	1/Month <sup>11</sup>	<sup>3</sup>

Parameter	Units	Sample Type <sup>1</sup>	Minimum Sampling Frequency <sup>2</sup>	Required Analytical Test Method
Iron, Total Recoverable	µg/L	Grab	1/Month	<sup>3</sup>
Manganese, Total Recoverable	µg/L	Grab	1/Quarter	<sup>3</sup>
Methylene Blue Active Substances	µg/L	Grab	1/Quarter	<sup>3</sup>
Nitrate, Total (as N)	mg/L	Grab	1/Month	<sup>3</sup>
Nitrite, Total (as N)	mg/L	Grab	1/Month	<sup>3</sup>
Settleable Solids	ml/L	Grab	1/Week	<sup>3</sup>
Temperature	°C	Grab <sup>4</sup>	1/Day	<sup>3</sup>
Total Coliform Organisms	MPN/100 mL	Grab	1/Week	<sup>3</sup>
Total Dissolved Solids	mg/L	Grab	1/Month	<sup>3</sup>
Turbidity	NTU	Grab	1/Month	<sup>3</sup>

- <sup>1</sup> Monitoring required only when discharging to surface water.
- <sup>2</sup> Time of collection of samples shall be recorded. Samples collected from the outfall having passed through the polishing ponds shall be considered adequately composited.
- <sup>3</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.
- <sup>4</sup> A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
- <sup>5</sup> In order to verify if bis (2-ethylhexyl) phthalate is truly present in the effluent discharge, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected pollutant.
- <sup>6</sup> For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.
- <sup>7</sup> The analyses for aluminum can be evaluated using either total or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by USEPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate particles as approved by the Executive Officer.
- <sup>8</sup> Concurrent with whole effluent toxicity monitoring.
- <sup>9</sup> pH and temperature shall be recorded at the time of ammonia sample collection.
- <sup>10</sup> Total chlorine residual must be monitored with a method sensitive to and accurate at the permitted level of 0.01 mg/L.
- <sup>11</sup> Concurrent with monitoring for copper and zinc.

## V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

**A. Acute Toxicity Testing.** The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the following acute toxicity testing requirements:

1. Monitoring Frequency – The Discharger shall perform acute toxicity testing twice per surface water discharge season (1 November through 30 April), concurrent with effluent ammonia sampling.
2. Sample Types – For static non-renewal and static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the

discharge. The effluent samples shall be taken at the effluent monitoring location EFF-001.

3. Test Species – Test species shall be fathead minnows (*Pimephales promelas*).
4. Methods – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.
5. Test Failure – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

**B. Chronic Toxicity Testing.** The Discharger shall conduct three species chronic toxicity testing to determine whether the effluent is contributing chronic toxicity to the receiving water. The Discharger shall meet the following chronic toxicity testing requirements:

1. Monitoring Frequency – The Discharger shall perform annual three species chronic toxicity testing.
2. Sample Types – Effluent samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location specified in the Monitoring and Reporting Program. The receiving water control shall be a grab sample obtained from the RSW-001 sampling location, as identified in the Monitoring and Reporting Program.
3. Sample Volumes – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.
4. Test Species – Chronic toxicity testing measures sublethal (e.g., reduced growth, reproduction) and/or lethal effects to test organisms exposed to an effluent compared to that of the control organisms. The Discharger shall conduct chronic toxicity tests with:
  - The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);
  - The fathead minnow, *Pimephales promelas* (larval survival and growth test); and
  - The green alga, *Selenastrum capricornutum* (growth test).
5. Methods – The presence of chronic toxicity shall be estimated as specified in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002.
6. Reference Toxicant – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.



7. **Dilutions** – For regular and accelerated chronic toxicity testing it is not necessary to perform the test using a dilution series. The test may be performed using 100% effluent. For TRE monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-4, below. The receiving water control shall be used as the diluent (unless the receiving water is toxic).

**Table E-4. Chronic Toxicity Testing Dilution Series**

Sample	Dilutions (%)					Controls	
	100	50	25	12.5	6.25	Receiving Water	Laboratory Water
% Effluent	100	50	25	12.5	6.25	0	0
% Receiving Water	0	50	75	87.5	93.75	100	0
% Laboratory Water	0	0	0	0	0	0	100

8. **Test Failure** –The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of a test failure. A test failure is defined as follows:
- The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002 (Method Manual), and its subsequent amendments or revisions; or
  - The percent minimum significant difference (PMSD) measured for the test exceeds the upper PMSD bound variability criterion in Table 6 on page 52 of the Method Manual. (A retest is only required in this case if the test results do not exceed the monitoring trigger specified in Special Provisions VI.C.2.a.iii.)
- C. WET Testing Notification Requirements.** The Discharger shall notify the Regional Water Board within 24-hrs after the receipt of test results exceeding the monitoring trigger during regular or accelerated monitoring, or an exceedance of the acute toxicity effluent limitation.
- D. WET Testing Reporting Requirements.** All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:
- Chronic WET Reporting.** Regular chronic toxicity monitoring results shall be reported to the Regional Water Board within 30 days following completion of the test, and shall contain, at minimum:
    - The results expressed in TU<sub>c</sub>, measured as 100/NOEC, and also measured as 100/LC<sub>50</sub>, 100/EC<sub>25</sub>, 100/IC<sub>25</sub>, and 100/IC<sub>50</sub>, as appropriate.

- b. The statistical methods used to calculate endpoints;
- c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);
- d. The dates of sample collection and initiation of each toxicity test; and
- e. The results compared to the numeric toxicity monitoring trigger.

Additionally, the monthly discharger self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUC, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or TRE. (Note: items a through c, above, are only required when testing is performed using the full dilution series.)

- 2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.
- 3. **TRE Reporting.** Reports for Toxicity Reduction Evaluations shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Work Plan.
- 4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes (if applicable):
  - a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.
  - b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.
  - c. Any information on deviations or problems encountered and how they were dealt with.

## VI. LAND DISCHARGE MONITORING REQUIREMENTS

### A. Monitoring Location LND-001

- 1. The Discharger shall monitor effluent discharged to the DLDA at LND-001 as follows:

**Table E-5. Land Discharge Monitoring Requirements**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow to Storage Ponds	MGD	Meter	Continuous	--
Flow to Disposal Trenches	MGD	Meter	1/Day	--

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
<b>Conventional Pollutants</b>				
Biochemical Oxygen Demand (5-day @ 25°C)	mg/L	24-Hour Composite	1/Week	1
<b>Non-Conventional Pollutants</b>				
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week	1
Settleable Solids	ml/L	Grab	1/Week	1
Total Coliform Organisms	MPN/100 mL	Grab	1/Week	1

<sup>1</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

## VII. RECLAMATION MONITORING REQUIREMENTS

[Not Applicable]

## VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

### A. Monitoring Locations RSW-001 and RSW-002

1. The Discharger shall monitor the North Fork Calaveras River at RSW-001 and RSW-002 as follows:

**Table E-6. Receiving Water Monitoring Requirements**

Parameter	Units	Sample Type	Minimum Sampling Frequency <sup>1</sup>	Required Analytical Test Method
Flow <sup>2</sup>	MGD	Meter	1/Day	---
Dilution Factor	River Flow/ Effluent Flow	Calculate	1/Day	---
<b>Conventional Pollutants</b>				
pH	standard units	Grab <sup>3</sup>	1/Week <sup>4</sup>	5
<b>Non-Conventional Pollutants</b>				
Ammonia Nitrogen, Total (as N)	µg/L	Grab	1/Month	5
Dissolved Oxygen	mg/L	Grab <sup>3</sup>	1/Week	5
Electrical Conductivity @ 25°C	µmhos/cm	Grab <sup>3</sup>	1/Week	5
Fecal Coliform Organisms	MPN/100 mL	Grab	1/Month	5
Hardness (as CaCO <sub>3</sub> )	mg/L	Grab	2/Month	5
Temperature	°C	Grab <sup>3</sup>	1/Week <sup>3</sup>	5
Turbidity	NTU	Grab	2/Month	5

<sup>1</sup> Monitoring required only when discharging to surface water.

<sup>2</sup> Monitoring required at Monitoring Location RSW-001 only.

<sup>3</sup> A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

<sup>4</sup> Monitoring for pH and temperature shall be conducted concurrently with ammonia sampling.

<sup>5</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

2. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by RSW-001 and RSW-002 when discharging to the North Fork Calaveras River. Attention shall be given to the presence of:
  - a. Floating or suspended matter;
  - b. Discoloration;
  - c. Bottom deposits;
  - d. Aquatic life;
  - e. Visible films, sheens, or coatings;
  - f. Fungi, slimes, or objectionable growths; and
  - g. Potential nuisance conditions.

Notes on receiving water conditions shall be summarized in the monitoring report.

#### B. Monitoring Locations GW-001, GW-002, and GW-003

1. The Discharger shall monitor the groundwater at GW-001, GW-002, and GW-003 as follows:

**Table E-7. Groundwater Monitoring Requirements**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Groundwater Elevation <sup>1</sup>	feet	Measure	1/Quarter	--
<b>Conventional Pollutants</b>				
pH	standard units	Grab	1/Quarter	2
<b>Non-Conventional Pollutants</b>				
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter	2
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Quarter	2
Standard Minerals <sup>2</sup>	mg/L	Grab	1/Year	2
Total Coliform Organisms	MPN/100 mL	Grab	1/Quarter	2
Total Dissolved Solids	mg/L	Grab	1/Quarter	2

<sup>1</sup> The groundwater elevation shall be used to calculate the direction and gradient of groundwater flow, which must be reported.

<sup>2</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

<sup>3</sup> Standard minerals shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

### IX. OTHER MONITORING REQUIREMENTS

#### A. Biosolids

##### 1. Monitoring Location BIO-001

- a. A composite sample of sludge shall be collected annually at Monitoring Location BIO-001 in accordance with EPA's *POTW Sludge Sampling and Analysis*

*Guidance Document*, August 1989, and tested for metals listed in 40 CFR Part 122, Appendix D, Table III (excluding total phenols).

- b. Sampling records shall be retained for a minimum of **5 years**. A log shall be maintained of sludge quantities generated and of handling and disposal activities. The frequency of entries is discretionary; however, the log must be complete enough to serve as a basis for part of the annual report.
- c. Upon removal of sludge, the Discharger shall submit characterization of sludge quality, including sludge percent solids and the most recent quantitative results of chemical analysis for the metals listed in 40 CFR Part 122, Appendix D, Table III (excluding total phenols). In addition to USEPA's *POTW Sludge Sampling and Analysis Guidance Document*, August 1989, suggested methods for analysis of sludge are provided in USEPA publications titled "*Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*" and "*Test Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater*". Recommended analytical holding times for sludge samples should reflect those specified in 40 CFR 136.6.3(e).

## B. Municipal Water Supply

### 1. Monitoring Location SPL-001

The Discharger shall monitor the Municipal Water Supply at SPL-001 as follows. Municipal water supply samples shall be collected at approximately the same time as effluent samples.

**Table E-8. Municipal Water Supply Monitoring Requirements**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
<b>Non-Conventional Pollutants</b>				
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter <sup>1</sup>	<sup>2</sup>
Standard Minerals <sup>3</sup>	mg/L	Grab	1/Year	<sup>2</sup>
Total Dissolved Solids	mg/L	Grab	1/Quarter	<sup>2</sup>

<sup>1</sup> If the water supply is from more than one source, electrical conductivity shall be reported as a weighted average and include copies of supporting calculations.

<sup>2</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

<sup>3</sup> Standard minerals shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

## X. REPORTING REQUIREMENTS

### A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. Upon written request of the Regional Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).
3. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Regional Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the compliance time schedule.
4. The Discharger shall report to the Regional Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act" of 1986.
5. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy ( $\pm$  a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
- d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.

6. **Multiple Sample Data.** When determining compliance with an AMEL, AWEL, or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
  - a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
  - b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

#### **B. Self Monitoring Reports (SMRs)**

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. Monitoring results shall be submitted to the Regional Water Board by the **first day** of the second month following sample collection. Quarterly and annual monitoring results shall be submitted by the **first day of the second month following each calendar quarter, semi-annual period, and year**, respectively.
3. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with waste discharge requirements. The highest daily maximum for the month, monthly and weekly averages, and medians, and removal efficiencies (%) for BOD and Total Suspended Solids, shall be determined and recorded as needed to demonstrate compliance.
4. With the exception of flow, all constituents monitored on a continuous basis (metered), shall be reported as daily maximums, daily minimums, and daily averages; flow shall be reported as the total volume discharged per day for each day of discharge.
5. If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be

included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.

6. A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions.
7. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Regional Water Quality Control Board  
Central Valley Region  
NPDES Compliance and Enforcement Unit  
11020 Sun Center Dr., Suite #200  
Rancho Cordova, CA 95670-6114

8. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

**Table E-9. Monitoring Periods and Reporting Schedule**

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	First day of calendar month following permit effective date	All	First day of second calendar month following month of sampling.
1/Day	First day of calendar month following permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	First day of second calendar month following month of sampling.
1/Week	First Sunday following first day of calendar month following permit effective date	Sunday through Saturday	First day of second calendar month following month of sampling.
2/Month	First day of calendar month following permit effective date	First day of calendar month through last day of calendar month	First day of second calendar month following month of sampling.
1/Month	First day of calendar month following permit effective date	First day of calendar month through last day of calendar month	First day of second calendar month following month of sampling.
1/Quarter	Closest of 1 January, 1 April, 1 July, or 1 October following permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	1 May 1 August 1 November 1 February
2/Year	Closest of 1 January or 1 July following permit effective date	1 January through 30 June 1 July through 31 December	1 August 1 February
1/Year	1 January following permit effective date	1 January through 31 December	1 February



### C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

STANDARD MAIL	FEDEX/UPS/ OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15 <sup>th</sup> Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated cannot be accepted unless they follow the exact same format as EPA form 3320-1.

### D. Other Reports

1. **Progress Reports.** As specified in the Special Provisions, progress reports shall be submitted in accordance with the following reporting requirements. At minimum, the progress reports shall include a discussion of the status of final compliance, whether the Discharger is on schedule to meet the final compliance date, and the remaining tasks to meet the final compliance date.

**Table E-10. Reporting Requirements for Special Provisions Progress Reports**

Special Provision	Reporting Requirements
Annual report describing the overall status of BPTC implementation and compliance with groundwater limitations over the past reporting year (section VI.C.2.c)	<b>30 January</b> , annually
Compliance Schedules for Final Effluent Limitations for Ammonia and Diazinon, compliance with final effluent limitations.	<b>1 June</b> , annually, until final compliance

2. Within **60 days** of permit adoption, the Discharger shall submit a report outlining minimum levels, method detection limits, and analytical methods for approval, with a goal to achieve detection levels below applicable water quality criteria. At a minimum, the Discharger shall comply with the monitoring requirements for CTR constituents as outlined in Section 2.3 and 2.4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of*

*California*, adopted 2 March 2000 by the State Water Resources Control Board. All peaks identified by analytical methods shall be reported.

3. The Discharger's sanitary sewer system collects wastewater using sewers, pipes, pumps, and/or other conveyance systems and directs the raw sewage to the wastewater treatment plant. A "sanitary sewer overflow" is defined as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the wastewater treatment plant. Sanitary sewer overflows are prohibited by this Order. All violations must be reported as required in Standard Provisions. Facilities (such as wet wells, regulated impoundments, tanks, highlines, etc.) may be part of a sanitary sewer system and discharges to these facilities are not considered sanitary sewer overflows, provided that the waste is fully contained within these temporary storage facilities.
4. **Annual Operations Report.** By **30 January** of each year, the Discharger shall submit a written report to the Executive Officer containing the following:
  - a. The names, certificate grades, and general responsibilities of all persons employed at the Facility.
  - b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.
  - c. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.
  - d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.
  - e. The Discharger may also be requested to submit an annual report to the Regional Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

## ATTACHMENT F – FACT SHEET

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## ATTACHMENT F – FACT SHEET

As described in section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

### I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

**Table F-1. Facility Information**

<b>WDID</b>	5B050103001
<b>Discharger</b>	San Andreas Sanitary District
<b>Name of Facility</b>	Wastewater Treatment Plant
<b>Facility Address</b>	675 Gold Oak Road
	San Andreas, CA 95249
	Calaveras County
<b>Facility Contact, Title and Phone</b>	Steve Schimp, District Manager, 209-754-3281
<b>Authorized Person to Sign and Submit Reports</b>	Steve Schimp, District Manager, 209-754-3281
<b>Mailing Address</b>	P.O. Box 1630
	San Andreas, CA 95249
<b>Billing Address</b>	Same as mailing address
<b>Type of Facility</b>	Publicly Owned Treatment Works (POTW)
<b>Major or Minor Facility</b>	Minor
<b>Threat to Water Quality</b>	1
<b>Complexity</b>	A
<b>Pretreatment Program</b>	Not Applicable
<b>Reclamation Requirements</b>	Not Applicable
<b>Facility Permitted Flow</b>	1.5 million gallons per day (MGD)
<b>Facility Design Flow</b>	0.4 MGD (average dry weather flow); 0.9 MGD (peak wet weather flow)
<b>Watershed</b>	Upper Calaveras Watershed
<b>Receiving Water</b>	North Fork Calaveras River
<b>Receiving Water Type</b>	Inland surface water

- A. The San Andreas Sanitary District (hereinafter Discharger) is the owner and operator of the San Andreas Sanitary District Wastewater Treatment Plant (hereinafter Facility), a POTW.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

- B. The Facility discharges wastewater to the North Fork Calaveras River, a water of the United States, and is currently regulated by Order No. R5-2003-0151 which was adopted on 17 October 2003 and expired on 15 October 2008. The terms and conditions of Order No. R5-2003-0151 have been automatically continued and remain in effect until new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.
- C. The Discharger filed a report of waste discharge and submitted an application for renewal of its WDRs and NPDES permit on 18 April 2008.

## **II. FACILITY DESCRIPTION**

The Discharger provides sewerage service for the community of San Andreas in Calaveras County and serves a population of approximately 2,200 residents with approximately 1,840 service connections. The design average dry weather flow capacity is 0.4 MGD and the peak wet weather flow capacity is 0.9 MGD. The Facility does not have any significant industrial users. San Andreas is the county seat of Calaveras County and experiences a substantial influx in population during the day because of the high school, government centers, and tourism.

Order No. R5-2003-0151 authorized the discharge of wastewater to San Andreas Creek and the North Fork Calaveras River. Order No. R5-2003-0151 required that discharges to San Andreas Creek that do not receive 20:1 dilution as a daily average after 1 April 2006 receive tertiary treatment. Order No. R5-2003-0151 also prohibited the discharge of secondary treated wastewater to the North Fork Calaveras River in quantities which do not receive a minimum of 20:1 dilution as a daily average. During the term of Order No. R5-2003-0151, the Discharger completed construction of an outfall pipeline to the North Fork Calaveras River and discontinued the discharge of secondary treated wastewater to San Andreas Creek as of 30 April 2008.

### **A. Description of Wastewater and Biosolids Treatment or Controls**

The treatment system at the Facility consists of a grit removal chamber, mechanical screen (for solids removal), Parshall flume, flow metering, storm flow by-pass device for diverting excessive storm inflow to the high flow treatment system and storage reservoir, pre-aeration basin, primary clarifier, re-circulating trickling filter, secondary clarifier, sodium hypochlorite contact chamber, sodium bisulfite dechlorination unit, heated unmixed anaerobic digester, sludge drying beds, three post-secondary effluent polishing ponds, and a 6 million gallon storage reservoir (Pond D). The treatment train is

designed for 0.4 MGD average dry weather flows and 0.9 MGD peak wet weather flows. The Discharger's high flow treatment system allows them to divert effluent to Pond D and return wastewater for retreatment and discharge when conditions permit. A diesel power generator is on-site for use in the event of electrical power loss.

The Discharger owns approximately 180 acres of land for disposal which is known as the Dedicated Land Disposal Area (DLDA). The currently developed portions of the DLDA consists of 70 acres on which are located Pond D and about 32 acres of effective land disposal area. In addition to these 70 acres, the DLDA also includes 110 acres of undeveloped land adjacent to the Facility referred to as the Nielson Property, which the Discharger purchased in 1992. Of the 110 acres, it is estimated that slightly less than 38 acres is useable disposal area with some provisions for storage on the site. A portion of the piping for transport of effluent to the Nielson Property has been installed; however, the Discharger does not plan to develop this portion of the DLDA further until effluent storage and disposal facilities are found to be needed and the parties needing the expanded effluent storage and disposal facilities have funded the design and construction of the facilities.

Disposal of treated wastewater is accomplished exclusively to land from 1 May through 31 October of each year. Treated wastewater is first held in the effluent storage reservoir, and then pumped to on-site evaporation, transpiration, and percolation ditches. The disposal ditches have a total length of approximately 2 miles, and vary in depth from about 1.5 to 3 feet and in width from about 2 to 4 feet. Excess effluent from the trenches is returned to the storage reservoir via a return ditch. Storm water runoff from the effluent disposal area is returned to storage when the DLDA is in use. During the remainder of the year, storm water runoff is not contained. Vegetation control in the DLDA is accomplished through prescribed burns by the local public fire agency.

From 1 November through 30 April, treated effluent is discharged to the DLDA to the extent feasible. Treated effluent that cannot be discharged to land is discharged to the North Fork Calaveras River via a cross river diffuser. Effluent that cannot be applied to land or discharged to the river is stored in Pond D for subsequent disposal when conditions permit. If the subsequent discharge is to the North Fork Calaveras River, the stored effluent is returned to the treatment process for complete retreatment prior to river discharge. Discharge to surface waters is prohibited during the period of 1 May through 31 October of each year.

The Discharger treats all primary and secondary sludge in a heated unmixed anaerobic digester. Drying of digested sludge is accomplished using sand drying beds. Dried sludge is disposed of at the Calaveras County Landfill.

## **B. Discharge Points and Receiving Waters**

1. The Facility is located in Section 18, T4N, R12E, MDB&M, as shown in Attachment B, a part of this Order.

2. Treated municipal wastewater is discharged at Discharge Point No. 001 to the North Fork Calaveras River, a water of the United States, and a tributary to New Hogan Reservoir at a point Latitude 38° 12' 39" N and longitude 120° 42' 20" W.

### C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

1. Effluent limitations contained in Order No. R5-2003-0151 for discharges to San Andreas Creek and representative monitoring data from the term of Order No. R5-2003-0151 are as follows:

**Table F-2. Historic Effluent Limitations and Monitoring Data for Discharges to San Andreas Creek**

Parameter	Units	Effluent Limitation			Monitoring Data (From January 2004 To April 2008)		
		Average Monthly	Average Weekly	Daily Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	30 <sup>1</sup>	45 <sup>1</sup>	60 <sup>1</sup>	36	71	71
	mg/L	10 <sup>2</sup>	15 <sup>2</sup>	20 <sup>2</sup>			
	lbs/day <sup>3</sup>	375 <sup>1</sup>	563 <sup>1</sup>	751 <sup>1</sup>	124	405	405
	lbs/day <sup>3</sup>	125 <sup>2</sup>	188 <sup>2</sup>	250 <sup>2</sup>			
	% Removal	85	--	--	78 <sup>4</sup>	--	--
Total Suspended Solids	mg/L	30 <sup>1</sup>	45 <sup>1</sup>	60 <sup>1</sup>	42	142	142
	mg/L	10 <sup>2</sup>	15 <sup>2</sup>	20 <sup>2</sup>			
	lbs/day <sup>3</sup>	375 <sup>1</sup>	563 <sup>1</sup>	751 <sup>1</sup>	194	627	627
	lbs/day <sup>3</sup>	125 <sup>2</sup>	188 <sup>2</sup>	250 <sup>2</sup>			
	% Removal	85	--	--	77 <sup>4</sup>	--	--
Settleable Solids	ml/L	0.1	--	0.2	0.31	--	1.2
Total Coliform	MPN/100 mL	--	23 <sup>1,5</sup>	230 <sup>1</sup>	--	--	900
	MPN/100 mL	--	2.2 <sup>2,6</sup>	23 <sup>2</sup>			
Turbidity <sup>2</sup>	NTU	--	2 <sup>2,7</sup>	5 <sup>2</sup>	--	--	49.9
Chlorine Residual	µg/L	--	11 <sup>8</sup>	19 <sup>9</sup>	--	130 <sup>10</sup>	230
	lbs/day <sup>3</sup>	--	0.14 <sup>8</sup>	0.24 <sup>9</sup>	--	0.366 <sup>10</sup>	0.653
Copper (Total)	µg/L	11,12	--	11,12	39	--	50
	µg/L	105 <sup>13</sup>	--	--			
	lbs/day <sup>3</sup>	11,14	--	11,14	0.12	--	0.192
	lbs/day <sup>3</sup>	1.3 <sup>13</sup>	--	--			
Zinc (Total)	µg/L	11,15	--	11,15	248	--	270
	µg/L	510 <sup>13</sup>	--	--			
	lbs/day <sup>3</sup>	11,16	--	11,16	0.754	--	0.981
	lbs/day <sup>3</sup>	6.4 <sup>13</sup>	--	--			
Dichlorobromomethane	µg/L	0.56 <sup>11</sup>	--	1:1 <sup>11</sup>	0.85	--	1.6
	µg/L	2.1 <sup>13</sup>	--	--			
	lbs/day <sup>3</sup>	0.007 <sup>11</sup>	--	0.014 <sup>11</sup>	0.009	--	0.017
	lbs/day <sup>3</sup>	0.026 <sup>13</sup>	--	--			
Bis (2-ethylhexyl) phthalate	µg/L	1.8	--	3.6	28	--	55
	lbs/day <sup>3</sup>	0.023	--	0.045	0.08	--	0.16
Aluminum (Total)	µg/L	83	--	143	1,015	--	1,390
	lbs/day <sup>3</sup>	1.04	--	1.8	3.42	--	6.15
Ammonia (Total)	mg/L	17	--	18	12.2	--	14
	lbs/day <sup>3</sup>	19	--	20	31.5	--	86.8



Parameter	Units	Effluent Limitation			Monitoring Data (From January 2004 To April 2008)		
		Average Monthly	Average Weekly	Daily Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Nitrate + Nitrite (as Nitrogen)	mg/L	10	--	--	9.5	--	--
	lbs/day <sup>3</sup>	125	--	--	27.3	--	--
Iron	µg/L	300	--	--	1,115	--	--
	lbs/day <sup>3</sup>	3.8	--	--	6.7	--	--
Manganese	µg/L	50	--	--	300	--	--
	lbs/day <sup>3</sup>	0.63	--	--	1.45	--	--
Methylene Blue Active Substances	µg/L	500	--	--	3350	--	--
	lbs/day <sup>3</sup>	6.3	--	--	7.76	--	--
Diazinon	µg/L	0.04	--	0.08	0.42	--	0.42
	lbs/day <sup>3</sup>	0.0005	--	0.001	0.00043	--	0.00043
pH	standard units	--	--	21	--	--	22
Flow	MGD	--	--	23	--	--	1.534
Acute Toxicity	% Survival	--	--	24	--	--	80

1 Applicable to secondary treated effluent discharged to San Andreas Creek when the effluent receives 20:1 dilution.

2 Applicable to tertiary treated effluent discharged to San Andreas Creek when the effluent does not receive 20:1 dilution as of 1 April 2006.

3 Based upon a wet weather design discharge capacity of 1.5 MGD.

4 Represents the minimum observed reported average monthly percent removal.

5 Applied as a monthly median effluent limitation.

6 Applied as a 7-day median effluent limitation.

7 Applied as a daily average effluent limitation.

8 Applied as a maximum 4-day average effluent limitation.

9 Applied as a maximum 1-hour average effluent limitation.

10 Represents the maximum observed 4-day average value.

11 Final effluent limitation effective 1 October 2008.

12 Floating effluent limitations calculated in accordance with Attachment C of Order No. R5-2003-0151.

13 Interim limitation effective until 30 September 2008.

14 Using the value, in mg/L, determined from Attachment C of Order No. R5-2003-0151, calculate lbs/day using the formula:  $z \text{ mg/L} \times 8.345 \times 1.5 \text{ MGD} = y \text{ lbs/day}$ .

15 Floating effluent limitations calculated in accordance with Attachment E of Order No. R5-2003-0151.

16 Using the value, in mg/L, determined from Attachment E of Order No. R5-2003-0151, calculate lbs/day using the formula:  $z \text{ mg/L} \times 8.345 \times 1.5 \text{ MGD} = y \text{ lbs/day}$ .

17 Floating effluent limitations calculated in accordance with Attachment G of Order No. R5-2003-0151.

18 Floating effluent limitations calculated in accordance with Attachment H of Order No. R5-2003-0151.

19 Using the value, in mg/L, determined from Attachment G of Order No. R5-2003-0151, calculate lbs/day using the formula:  $z \text{ mg/L} \times 8.345 \times 1.5 \text{ MGD} = y \text{ lbs/day}$ .

20 Using the value, in mg/L, determined from Attachment H of Order No. R5-2003-0151, calculate lbs/day using the formula:  $z \text{ mg/L} \times 8.345 \times 1.5 \text{ MGD} = y \text{ lbs/day}$ .

21 The discharge shall not have a pH less than 6.5 nor greater than 8.5.

22 Daily pH values ranged from 6.0 to 9.82.

23 The peak wet weather flow through the trickling filter treatment facility shall not exceed 0.9 MGD. The discharge flow shall not exceed 1.5 MGD.

24 Survival of aquatic organisms in 96-hour acute bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay ----- 70%

Median for any three or more consecutive bioassays ----- 90%

2. Effluent limitations contained in Order No. R5-2003-0151 for discharges to the North Fork Calaveras River and representative monitoring data from the term of Order No. R5-2003-0151 are as follows:

**Table F-3. Historic Effluent Limitations and Monitoring Data for Discharges to the North Fork Calaveras River**

Parameter	Units	Effluent Limitation			Monitoring Data (From January 2004 To April 2008) <sup>1</sup>		
		Average Monthly	Average Weekly	Daily Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	30	45	60	36	71	71
	lbs/day <sup>2</sup>	375	563	751	124	405	405
	% Removal	85	--	--	78 <sup>3</sup>	--	--
Total Suspended Solids	mg/L	30	45	60	42	142	142
	lbs/day <sup>2</sup>	375	563	751	194	627	627
	% Removal	85	--	--	77 <sup>3</sup>	--	--
Settleable Solids	ml/L	0.1	--	0.2	0.31	--	1.2
Total Coliform	MPN/100 mL	--	23 <sup>4</sup>	230	--	--	900
Chlorine Residual	µg/L	--	11 <sup>5</sup>	19 <sup>6</sup>	--	130 <sup>7</sup>	230
	lbs/day <sup>2</sup>	--	0.14 <sup>5</sup>	0.24 <sup>6</sup>	--	0.366 <sup>7</sup>	0.653
Copper (Total)	µg/L	8,9	--	8,9	39	--	50
	µg/L	105 <sup>10</sup>	--	--	0.12	--	0.192
	lbs/day <sup>2</sup>	9,11	--	9,11			
	lbs/day <sup>2</sup>	1.3 <sup>10</sup>	--	--			
	µg/L	9,12	--	9,12	248	--	270
Zinc (Total)	µg/L	510 <sup>10</sup>	--	--	0.754	--	0.981
	lbs/day <sup>3</sup>	9,13	--	9,13			
	lbs/day <sup>3</sup>	6.4 <sup>13</sup>	--	--			
	µg/L	2.1 <sup>10</sup>	--	--	0.85	--	1.6
Dichlorobromomethane	lbs/day <sup>2</sup>	0.026 <sup>10</sup>	--	--	0.009	--	0.017
	µg/L	13.7 <sup>10</sup>	--	--	28	--	55
Bis (2-ethylhexyl) phthalate	lbs/day <sup>2</sup>	0.17 <sup>10</sup>	--	--	0.08	--	0.16
	µg/L	216	--	373	1,015	--	1,390
Aluminum (Total)	lbs/day <sup>2</sup>	2.7	--	4.7	3.42	--	6.15
	mg/L	--	--	14	12.2	--	14.0
Ammonia (Total)	lbs/day <sup>3</sup>	--	--	15	39.32	--	86.80
	standard units	--	--	16	--	--	17
pH	standard units	--	--	16	--	--	17
Flow	MGD	--	--	18	--	--	1.534
Acute Toxicity	% Survival	--	--	19	--	--	80

Parameter	Units	Effluent Limitation			Monitoring Data (From January 2004 To April 2008) <sup>1</sup>		
		Average Monthly	Average Weekly	Daily Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge

- 1 Note that the Discharger has not previously discharged to the North Fork Calaveras River. Reported values represent secondary treated effluent discharged to San Andreas Creek.
- 2 Based upon a wet weather design discharge capacity of 1.5 MGD.
- 3 Represents the minimum observed reported average monthly percent removal.
- 4 Applied as a monthly median effluent limitation.
- 5 Applied as a maximum 4-day average effluent limitation.
- 6 Applied as a maximum 1-hour average effluent limitation.
- 7 Represents the maximum observed 4-day average value.
- 8 Floating effluent limitations calculated in accordance with Attachment D of Order No. R5-2003-0151.
- 9 Final effluent limitation effective 1 October 2008.
- 10 Interim limitation effective until 30 September 2008.
- 11 Using the value, in mg/L, determined from Attachment D of Order No. R5-2003-0151, calculate lbs/day using the formula:  $z \text{ mg/L} \times 8.345 \times 1.5 \text{ MGD} = y \text{ lbs/day}$ .
- 12 Floating effluent limitations calculated in accordance with Attachment F of Order No. R5-2003-0151.
- 13 Using the value, in mg/L, determined from Attachment F of Order No. R5-2003-0151, calculate lbs/day using the formula:  $z \text{ mg/L} \times 8.345 \times 1.5 \text{ MGD} = y \text{ lbs/day}$ .
- 14 Floating effluent limitations calculated in accordance with Attachment H of Order No. R5-2003-0151.
- 15 Using the value, in mg/L, determined from Attachment H of Order No. R5-2003-0151, calculate lbs/day using the formula:  $z \text{ mg/L} \times 8.345 \times 1.5 \text{ MGD} = y \text{ lbs/day}$ .
- 16 The discharge shall not have a pH less than 6.5 nor greater than 8.5.
- 17 Daily pH values ranged from 6.0 to 9.82.
- 18 The peak wet weather flow through the trickling filter treatment facility shall not exceed 0.9 MGD. The discharge flow shall not exceed 1.5 MGD.
- 19 Survival of aquatic organisms in 96-hour acute bioassays of undiluted waste shall be no less than:  
Minimum for any one bioassay ----- 70%  
Median for any three or more consecutive bioassays----- 90%

#### D. Compliance Summary

1. An inspection of the Facility was conducted on 7 May 2008. The following is a summary of the major findings from the inspection report:
  - a. Records and reports were maintained according to requirements in Regional Board Order No. R5-2003-0151, Regional Board NPDES Standard Provisions, and 40 CFR Part 122.
  - b. According to the Facility representative, the Facility had not experienced a wastewater spill or bypass in recent years.
  - c. The following effluent limitation exceedances for discharges to San Andreas Creek were identified during the inspection:
    - i. Total aluminum monthly average, diazinon monthly average, diazinon daily maximum, bis (2-ethylhexyl) phthalate monthly average, bis (2-ethylhexyl) phthalate daily maximum, methylene blue active substances (MBAS) monthly average, and total manganese monthly average.

2. The Regional Water Board adopted Administrative Civil Liability (ACL) Complaint No. R5-2008-0581 on 22 September 2008. The Regional Water Board found in ACL Complaint No. R5-2008-0581 that the Discharger committed three serious violations and 18 non-serious violations of effluent limitations contained in Order Nos. 95-033, 5-01-118, and R5-2003-0151. The Regional Water Board issued Mandatory Minimum Penalties (MMPs) of \$33,000 for these violations of effluent limitations.

#### **E. Planned Changes**

Order No. R5-2003-0151 included a prohibition of discharges of secondary treated effluent to the North Fork Calaveras River which do not receive a minimum of 20:1 dilution as a daily average. However, flow monitoring indicates that, at times, the discharge to the North Fork Calaveras River may not receive 20:1 dilution. Therefore, the Discharger requested in the permit application the authorization to discharge when the effluent receives 10:1 dilution. In order for the Regional Water Board to authorize discharges to the North Fork Calaveras River when the effluent does not receive 20:1 dilution, additional treatment will be required to protect the beneficial uses of the receiving water. In anticipation of the requirements to be imposed upon authorization to discharge effluent that receives less than 20:1 dilution, the Discharger is currently planning for several improvements to the existing treatment facilities. These improvements include:

1. Addition of a post-trickling filter extended aeration activated sludge process to reduce effluent ammonia concentrations and increase the treatment facility peak flow capacity from 0.9 MGD to 1.5 MGD to eliminate the need for the existing high flow treatment system (although the high flow treatment system will remain in place);
2. Addition of effluent filters to produce an equivalent tertiary effluent quality of less than or equal to 10 mg/L for BOD<sub>5</sub> and TSS and less than or equal to 2 NTU for turbidity; and
3. Modification of the existing chlorination system to facilitate compliance with a 7-day median total coliform concentration of less than or equal to 2.2 MPN/100 mL.

The Discharger plans to have these improvements completed and operable by the winter 2009/2010 surface water discharge season; however funding for these improvements has not yet been secured. Effluent limitations for secondary treatment are included in this Order. Upon upgrades to the Facility, this Order may be reopened to allow discharges to the North Fork Calaveras River when 20:1 dilution is not available and to require tertiary treatment requirements, which consist of additional restrictions on BOD<sub>5</sub>, TSS, total coliform organisms, and turbidity.

As discussed in section II.A of this Fact Sheet, the Discharger previously purchased the Nielson Property for the purpose of additional effluent storage and disposal. In the Discharger's December 2007 Initial Study/Mitigated Negative Declaration, the Discharger proposed the installation of three new storage ponds, installation of a spray irrigation system and an emergency run-off ditch berm system for water collection, and the installation of several groundwater monitoring wells. As discussed further in section

IV.D.4 of this Fact Sheet, the Discharger must submit a complete antidegradation analysis in order for the Regional Water Board to authorize additional discharges to land which may result in an increase of pollutants in the underlying groundwater.

### III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the applicable plans, policies, and regulations identified in section II of the Limitations and Discharge Requirements (Findings). This section provides supplemental information, where appropriate, for the plans, policies, and regulations relevant to the discharge.

#### A. Legal Authority

See Limitations and Discharge Requirements - Findings, Section II.C.

#### B. California Environmental Quality Act (CEQA)

See Limitations and Discharge Requirements - Findings, Section II.E.

#### C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised October 2007), for the Sacramento and San Joaquin River Basins* (Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Board Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Ambient receiving water data collected by the Discharger indicates that the North Fork Calaveras River from the source to New Hogan Reservoir is suitable for municipal and domestic supply and the State Water Board maintains an active water rights permit for domestic and irrigation supply use from New Hogan Reservoir downstream of the discharge. Additionally, although agricultural supply including both irrigation and stock watering is not identified in Table II-1 of the Basin Plan as an existing use of the Calaveras River, active water rights permits for stock watering have been identified downstream of the discharge point along the North Fork Calaveras River. Therefore, the beneficial uses of the North Fork Calaveras River downstream of the discharge are municipal and domestic supply; agricultural supply, including irrigation and stock watering; water contact recreation, including canoeing and rafting; non-contact water recreation, including aesthetic enjoyment; warm freshwater habitat; cold freshwater habitat; warm migration of aquatic organisms; warm and cold spawning, reproduction, and/or early development; and wildlife habitat.

The Basin Plan on page II-1.00 states: "*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning...*" and with respect to disposal of wastewaters states that "*...disposal of wastewaters is [not] a*

*prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses."*

The federal CWA section 101(a)(2), states: *"it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983."* Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. Section 131.3(e), 40 CFR, defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 CFR section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

2. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet (Attachment F, Section IV.D.4.) the discharge is consistent with the antidegradation provisions of 40 CFR section 131.12 and State Water Board Resolution 68-16.
3. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. Compliance with the anti-backsliding requirements is discussed in Section IV.D.3.
4. **Emergency Planning and Community Right to Know Act.** Section 13263.6(a), California Water Code, requires that *"the Regional Water Board shall prescribe effluent limitations as part of the waste discharge requirements of a POTW for all substances that the most recent toxic chemical release data reported to the state emergency response commission pursuant to Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) (EPCRA) indicate as discharged into the POTW, for which the State Water Board or the Regional Water Board has established numeric water quality objectives, and has determined that the discharge is or may be discharged at a level which will cause,*

*have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective”.*

The most recent toxic chemical data report does not indicate any reportable off-site releases or discharges to the collection system for this Facility. Therefore, a reasonable potential analysis based on information from EPCRA cannot be conducted. Based on information from EPCRA, there is no reasonable potential to cause or contribute to an excursion above any numeric water quality objectives included within the Basin Plan or in any State Water Board plan, so no effluent limitations are included in this permit pursuant to CWC section 13263.6(a).

However, as detailed elsewhere in this Order, available effluent data indicate that there are constituents present in the effluent that have a reasonable potential to cause or contribute to exceedances of water quality standards and require inclusion of effluent limitations based on federal and state laws and regulations.

5. **Storm Water Requirements.** USEPA promulgated Federal Regulations for storm water on 16 November 1990 in 40 CFR Parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from wastewater treatment facilities. Wastewater treatment plants are applicable industries under the storm water program and are obligated to comply with the Federal Regulations.
6. **Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

#### **D. Impaired Water Bodies on CWA 303(d) List**

1. Under Section 303(d) of the 1972 Clean Water Act, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 30 November 2006 USEPA gave final approval to California's 2006 Section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as “...those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 CFR 130, et seq.).” The Basin Plan also states, “Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment.” The North Fork Calaveras River is not specifically listed in the 303(d) list of impaired waters. The Lower Calaveras River is listed as a WQLS for diazinon,

organic enrichment/ low dissolved oxygen, and pathogens in the 303(d) list of impaired water bodies.

2. **Total Maximum Daily Loads.** The USEPA requires the Regional Water Board to develop total maximum daily loads (TMDLs) for each 303(d) listed pollutant and water body combination. TMDLs have not been developed for the North Fork Calaveras River.

#### E. Other Plans, Policies and Regulations

1. The discharge authorized herein and the treatment and storage facilities associated with the discharge of treated municipal wastewater, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, California Code of Regulations (CCR), section 20005 *et seq.* (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following:
  - a. The waste consists primarily of domestic sewage and treated effluent;
  - b. The waste discharge requirements are consistent with water quality objectives; and
  - c. The treatment and storage facilities described herein are associated with a municipal wastewater treatment plant.

#### IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Effluent limitations and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.

The Federal CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law [33 U.S.C., §1311(b)(1)(C); 40 CFR, §122.44(d)(1)]. NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to Federal Regulations, 40 CFR §122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that "*are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality.*" Federal Regulations, 40 CFR, §122.44(d)(1)(vi), further provide that "[w]here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits."

The CWA requires point source discharges to control the amount of conventional, non-



conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards, and 40 CFR §122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Regional Water Board's Basin Plan, page IV-17.00, contains an implementation policy ("Policy for Application of Water Quality Objectives") that specifies that the Regional Water Board "*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives.*" This Policy complies with 40 CFR §122.44(d)(1). With respect to narrative objectives, the Regional Water Board must establish effluent limitations using one or more of three specified sources, including (1) USEPA's published water quality criteria, (2) a proposed state criterion (*i.e.*, water quality objective) or an explicit state policy interpreting its narrative water quality criteria (*i.e.*, the Regional Water Board's "Policy for Application of Water Quality Objectives")(40 CFR §§122.44(d)(1) (vi) (A), (B) or (C)), or (3) an indicator parameter. The Basin Plan contains a narrative objective requiring that: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*" (narrative toxicity objective). The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, discoloration, toxic substances, radionuclides, or taste and odor producing substances that adversely affect beneficial uses. The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The Basin Plan also limits chemical constituents in concentrations that adversely affect surface water beneficial uses. For waters designated as municipal, the Basin Plan specifies that, at a minimum, waters shall not contain concentrations of constituents that exceed Maximum Contaminant Levels (MCL) of CCR Title 22. The Basin Plan further states that, to protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

#### **A. Discharge Prohibitions**

1. As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. Federal Regulations, 40 CFR 122.41 (m), define "bypass" as the intentional diversion of waste streams from any portion of a treatment facility. This section of the Federal Regulations, 40 CFR 122.41 (m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board's prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the Federal Regulations, 40 CFR 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation.
2. Order No. R5-2003-0151 contained a prohibition of discharges to the North Fork Calaveras River from 1 May through 31 October. This prohibition is retained in this

Order. Due to limited effluent storage facilities, recent wet weather events observed during the months of May and October, increased hydraulic capacity of the collection system to prevent sanitary sewer overflows (SSOs), and levels of infiltration and inflow (I/I), the Discharger requested in the ROWD to extend the permitted period of surface water discharge from 1 November through 30 April to 16 October through 31 May. However, the ROWD also indicates that the Discharger is planning the development of additional effluent storage and disposal facilities on the Nielson Property. In order to authorize an extension of the surface water discharge season, the Discharger must submit a report evaluating the use of the additional land disposal area as an alternative to extension of the surface water discharge season. Should the Discharger submit an evaluation demonstrating that utilizing the additional land disposal does not mitigate the need for extension of the surface water discharge season, this Order may be reopened to modify the prohibition to extend the permitted period of surface water discharge.

3. Order No. R5-2003-0151 contained a prohibition of discharges of secondary treated effluent to the North Fork Calaveras River which do not receive a minimum of 20:1 dilution as a daily average. However, flow monitoring indicates that at times, the discharge to the North Fork Calaveras River may not receive 20:1 dilution. The California Department of Public Health (DPH; formerly the Department of Health Services) has developed reclamation criteria, CCR, Division 4, Chapter 3 (Title 22), for the reuse of wastewater. Title 22 requires that for spray irrigation of food crops, parks, playgrounds, schoolyards, and other areas of similar public access, wastewater be adequately disinfected, oxidized, coagulated, clarified, and filtered, and that the effluent total coliform levels not exceed 2.2 MPN/100 mL as a 7-day median. Title 22 also requires that recycled water used as a source of water supply for non-restricted recreational impoundments be disinfected tertiary recycled water that has been subjected to conventional treatment. A non-restricted recreational impoundment is defined as "...an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities." Title 22 is not directly applicable to surface waters; however, the Regional Water Board finds that it is appropriate to apply an equivalent level of treatment to that required by DPH's reclamation criteria for receiving waters used for irrigation of agricultural land and for contact recreation purposes. The Discharger cannot currently provide an equivalent level of treatment required by DPH's reclamation criteria for discharges that do not receive 20:1 dilution. Therefore, this Order retains the prohibition of discharges of secondary treated effluent to the North Fork Calaveras River which do not receive a minimum of 20:1 dilution as a daily average. Upon upgrades to the Facility to provide tertiary level of treatment or equivalent, this Order may be reopened to allow discharges to the North Fork Calaveras River when 20:1 dilution is not available and to require tertiary treatment requirements, which consist of additional restrictions on BOD<sub>5</sub>, TSS, total coliform organisms, and turbidity.

## **B. Technology-Based Effluent Limitations**

### **1. Scope and Authority**

Regulations promulgated in section 125.3(a)(1) require technology-based effluent limitations for municipal dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD<sub>5</sub>), total suspended solids (TSS), and pH.

### **2. Applicable Technology-Based Effluent Limitations**

- a. **BOD<sub>5</sub> and TSS.** Federal Regulations, 40 CFR, Part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD<sub>5</sub> and TSS. A daily maximum effluent limitation for BOD<sub>5</sub> and TSS is also included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities. In addition, 40 CFR 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. This Order contains a limitation requiring an average of 85 percent removal of BOD<sub>5</sub> and TSS over each calendar month.

The Discharger has requested the ability to discharge when 20:1 dilution is not available; however this request will not be authorized until the Discharger upgrades the Facility to provide tertiary treatment. Upon upgrades to the Facility, the Order may be reopened to allow discharges to the North Fork Calaveras River when 20:1 dilution is not available and to require tertiary treatment requirements, which consist of additional restrictions on BOD<sub>5</sub> and TSS.

- b. **pH.** Regulations at 40 CFR Part 133 also establish technology-based effluent limitations for pH. The secondary treatment standards require the pH of the effluent to be no lower than 6.0 and no greater than 9.0 standard units.
- c. **Flow.** The Facility was designed to treat an average dry weather flow of 0.4 MGD and a peak flow capacity of 0.9 MGD. The Discharger also has three effluent polishing ponds that allow the Discharger to store treated effluent until receiving

water levels permit, resulting in a hydraulic capacity of 1.5 MGD for the Facility. Order No. R5-2003-0151 contained effluent limitations for flow, specifying that the discharge flow shall not exceed 1.5 MGD. Because this Order authorizes discharges during the wet-weather season (1 November through 30 April), effluent flow limitations based on the design peak wet weather flow capacity and the hydraulic capacity of the Facility are appropriate. Therefore, flow limitations have been retained from Order No. R5-2003-0151.

As part of the proposed upgrades to the Facility to provide tertiary treatment, the Discharger is planning to increase the peak flow capacity to 1.9 MGD. The Discharger must submit to the Regional Water Board a complete antidegradation analysis in order for an increase in discharge flow to be authorized. Upon upgrades to the Facility and submission of a complete antidegradation analysis, this Order may be reopened to allow for an increase in discharge flow.

### Summary of Technology-based Effluent Limitations Discharge Point No. 001

**Table F-4. Summary of Technology-based Effluent Limitations**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	30	45	60	--	--
	lbs/day <sup>1</sup>	375	563	751	--	--
	% Removal	85	--	--	--	--
Total Suspended Solids	mg/L	30	45	60	--	--
	lbs/day <sup>1</sup>	375	563	751	--	--
	% Removal	85	--	--	--	--
pH	standard units	--	--	--	6.0	9.0
Flow	MGD	--	--	<sup>2</sup>	--	--

<sup>1</sup> Based on permitted flow of 1.5 MGD.

<sup>2</sup> The average daily discharge flow to the North Fork Calaveras River shall not exceed 1.5 MGD.

### C. Water Quality-Based Effluent Limitations (WQBELs)

#### 1. Scope and Authority

As specified in section 122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an in-stream excursion above any state water quality standard. The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water

quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

## 2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

- a. **Receiving Water.** Treated municipal wastewater is discharged from Discharge Point No. 001 to the North Fork Calaveras River, which is tributary to New Hogan Reservoir, from 1 November through 30 April. The beneficial uses of the North Fork Calaveras River are listed in Section III.C of this Fact Sheet.
- b. **Hardness.** While no effluent limitation for hardness is necessary in this Order, hardness is critical to the assessment of the need for, and the development of, effluent limitations for certain metals. The *California Toxics Rule* and the *National Toxics Rule* contain water quality criteria for seven metals that vary as a function of hardness, the lower the hardness the lower the water quality criteria. The hardness-dependent metal criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc.

Effluent limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. In the absence of the option of including condition-dependent, "floating" effluent limitations that are reflective of actual hardness conditions at the time of discharge, effluent limitations must be set using a reasonable worst-case condition in order to protect beneficial uses for all discharge conditions. The SIP does not address how to determine hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water. The CTR requires that, for waters with a hardness of 400 mg/L (as  $\text{CaCO}_3$ ), or less, the actual ambient hardness of the surface water must be used. It further requires that the hardness values used must be consistent with the design discharge conditions for design flows and mixing zones.<sup>1</sup> The CTR does not define whether the term "ambient," as applied in the regulations, necessarily requires the consideration of upstream as opposed to downstream hardness conditions.

The point in the receiving water affected by the discharge is downstream of the discharge. As the effluent mixes with the receiving water, the hardness of the receiving water can change. Therefore, it is appropriate to use the ambient hardness downstream of the discharge that is a mixture of the effluent and receiving water for the determination of the CTR hardness-dependent metals criteria. Recent studies indicate that using the lowest recorded receiving water hardness for establishing water quality criteria is not always protective of the receiving water under various mixing conditions (e.g. when the effluent hardness is less than the receiving water hardness). The studies evaluated the relationships between hardness and the CTR metals criterion that is calculated

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<sup>1</sup> See 40 CFR 131.38(c)(4)(i)

using the CTR metals equation. The equation describing the total recoverable regulatory criterion, as established in the CTR, is as follows:

$$\text{CTR Criterion} = e^{m[\ln(H)]+b} \quad (\text{Equation 1})$$

Where:

H = Design Hardness

b = metal- and criterion-specific constant

m = metal- and criterion-specific constant

The constants "m" and "b" are specific to both the metal under consideration, and the type of total recoverable criterion (i.e. acute or chronic). The metal-specific values for these constants are provided in the CTR at paragraph (b)(2), Table 1.

The relationship between the Design Hardness and the resulting criterion in Equation 1 can exhibit either a downward-facing (i.e., concave downward) or an upward-facing (i.e., concave upward) curve depending on the values of the criterion-specific constants. The curve shapes for acute and chronic criteria for the metals are as follows:

Concave Downward: cadmium (chronic), chromium (III), copper, nickel, and zinc

Concave Upward: cadmium (acute), lead, and silver (acute)

For those contaminants where the regulatory criteria exhibit a concave downward relationship as a function of hardness, use of the lowest recorded effluent hardness as a representation of the downstream receiving water hardness for establishment of water quality objectives is fully protective of all beneficial uses regardless of whether the effluent or receiving water hardness is higher. Use of the lowest recorded effluent hardness is also protective under all possible mixing conditions between the effluent and the receiving water (i.e., from high dilution to no dilution). Therefore, for cadmium (chronic), chromium (III), copper, nickel, and zinc, the reasonable worst-case ambient hardness can be estimated by using the lowest effluent hardness. The water quality criteria for these metals were calculated for this Order using Equation 1 and a reported minimum effluent hardness of 59 mg/L as CaCO<sub>3</sub>, based on 31 samples obtained by the Discharger between 1 November 2005 and 30 April 2008.

For those metals where the regulatory criteria exhibit a concave upward relationship as a function of hardness, water quality objectives based on either the effluent hardness or the receiving water hardness alone, would not be protective under all mixing scenarios. Instead, both the use of the hardness of the upstream receiving water and the effluent is used to represent the reasonable worst-case ambient hardness. In this case, using the lowest upstream receiving water hardness in Equation 2, below, is protective if the effluent hardness is ALWAYS higher than the receiving water hardness. Under circumstances where

the effluent hardness is not ALWAYS higher than the receiving water hardness, it may be appropriate to use the highest reported upstream receiving water hardness in Equation 2. The following equation provides fully protective water quality criteria for those metals that exhibit a concave upward relationship.

$$\text{CTR Criterion} = \left[ \frac{m}{H_{rw}} \cdot (H_{eff} - H_{rw}) + 1 \right] \cdot e^{m \cdot \ln(H_{rw}) + b} \quad (\text{Equation 2})$$

Where:

$H_{eff}$  = effluent hardness

$H_{rw}$  = upstream receiving water hardness

$b$  = metal- and criterion-specific constant

$m$  = metal- and criterion-specific constant

Therefore, for cadmium (acute), lead, and silver (acute) water quality criteria were calculated using Equation 2 with a lowest reported effluent hardness of 59 mg/L as  $\text{CaCO}_3$  and a lowest reported upstream receiving water hardness of 40 mg/L as  $\text{CaCO}_3$ , which was reported in the Discharger's application.

- c. **Assimilative Capacity/Mixing Zone.** Provision G.6 of Order No. R5-2003-0151 required the Discharger to conduct a Dilution/Mixing Zone Study to address the requirements of SIP Section 1.4.2, including, but not limited to, whether the discharge to the Calaveras River is completely or incompletely mixed and if mixing zone conditions are in accordance with Section 1.4.2.2 of the SIP. The study was also required specifically to address dilution and mixing zone issues as they pertained to final effluent limitations for copper, zinc, dichlorobromomethane, bis (2-ethylhexyl) phthalate, aluminum, ammonia, nitrate plus nitrite, iron, manganese, diazinon, and MBAS. The Discharger conducted the required Dilution/Mixing Zone Study in April 2004 and results of the study were provided to the Regional Water Board on 11 June 2004. On 29 July 2008, the Regional Water Board requested the Discharger to evaluate mixing in the North Fork Calaveras River using the USGS mixing model equation and the data provided in the Dilution/Mixing Zone Study. The Discharger submitted an evaluation of the Dilution/Mixing Zone Study on 25 August 2008.

Order No. R5-2003-0151 included a prohibition of discharges of secondary treated effluent to the North Fork Calaveras River which do not receive a minimum of 20:1 dilution as a daily average. However, flow monitoring indicates that, at times, the discharge to the North Fork Calaveras River may not receive 20:1 dilution. Therefore, the Discharger has proposed to install tertiary treatment by the winter 2009/2010 surface water discharge season to adequately protect beneficial uses when 20:1 dilution is not achieved; however funding has not yet been secured. The Discharger requested that this Order require interim effluent limitations based on the protection of aquatic life and human health criteria be calculated using a dilution factor of 19 based on 20:1 dilution until upgrades to

the Facility can be completed. The Discharger also requested that final effluent limitations be calculated using a dilution factor of 9 based on 10:1 dilution effective upon upgrades to the Facility.

Based on the data collected during the April 2004 study and using the USGS mixing equation, it appears that the discharge is not completely mixed within two stream widths downstream of the diffuser. Furthermore, the study does not adequately address all of the conditions required by section 1.4.2.2. of the SIP, which requires, in part, that a mixing zone shall not cause acutely toxic conditions to aquatic life passing through the mixing zone or restrict the passage of aquatic life and that the point in the receiving water where the applicable criteria/objectives must be met must be identified. The boundaries of the acute and chronic mixing zones have not been identified. Therefore, it is not appropriate to grant dilution credits for the protection of aquatic life at this time. Should the Discharger submit an approved Dilution/Mixing Zone Study that meets the requirements of Section 1.4.2.2 of the SIP, including defining the boundaries of the acute and chronic mixing zones, the Regional Water Board may reopen this Order to include effluent limitations based on an appropriate dilution factor for the protection of aquatic life.

The Dilution/Mixing Zone Study provided by the Discharger, consistent with the SIP's requirement for incomplete mixing, indicates that sufficient dilution and mixing would occur downstream within a short distance of the discharge point. The Dischargers Dilution/Mixing Zone Study is appropriate for developing a mixing zone for long-term human health criteria, because critical environmental effects are only expected to occur after complete mixing has occurred (at the edge of the mixing zone). For long-term human health criteria the exposure periods are very long (i.e. 70 years) and reasonable assumptions about exposure pathways should be considered (Water Quality Standards Handbook: Second Edition, EPA-823-B94\_005a, p. 5-7). The size of the mixing zone was conservatively estimated as the distance from the discharge point at which complete mixing occurs, considering reasonable worst-case conditions. Using the Dischargers Dilution/Mixing Zone Study complete mixing was conservatively estimated to occur no more than 250 feet downstream of the discharge. This Order allows for a dilution credit for pollutants with only human health related objectives (i.e., no aquatic life protection objectives exist). Effluent limitations based on the protection of human health criteria have been calculated using a dilution factor of 19 based on 20:1 dilution. There are no municipal water supply intakes within the vicinity of the mixing zone, and none before the river enters New Hogan Reservoir just over a mile downstream of the discharge.

This Order includes Discharge Prohibition III.F. that requires at least a 20:1 flow ratio (North Fork Calaveras River : effluent) at all times. Therefore, a dilution credit of 20:1 is allowed for compliance with long-term human health criteria. The dilution study predicted that after two stream widths (i.e., approximately 120 feet for the 60-foot wide reach of the river) the discharge was approximately 80 percent mixed. The Regional Water Board conservatively estimates that



complete mixing will occur 250 feet downstream of the discharge, which will serve as the boundary for the human health mixing zone.

**Consistency with Mixing Zone Requirements.** This Order only allows a mixing zone for human health criteria. This Order does not allow mixing zones for compliance with aquatic toxicity criteria. Because the mixing zone is limited to the area necessary to ensure that complete mixing will always occur, the mixing zone is as small as practicable. The mixing zone will not compromise the integrity of the entire water body, restrict the passage of aquatic life, dominate the waterbody or overlap existing mixing zones from different outfalls. The discharge enters the North Fork Calaveras River just over 1 mile upstream of New Hogan Reservoir, which is a source of drinking water. The human health criteria mixing zone extends 250 feet downstream of the discharge. There is significant dilution, much more than the allowed 20:1 in this Order, prior to any drinking water intake at New Hogan Reservoir. There are no drinking water intakes on North Fork Calaveras and the mixing zone does not overlap a mixing zone from another outfall.

The discharge will not cause acutely toxic conditions to aquatic life passing through the mixing zone, because this Order does not allow an acute aquatic life mixing zone and requires compliance with an acute toxicity effluent limitation that requires acute bioassays using 100% effluent (i.e., no dilution). Compliance with the acute toxicity effluent limitation assures the effluent is not acutely toxic.

The discharge will not adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws, because this Order does not allow mixing zones for compliance with aquatic toxicity criteria. The Discharger must meet stringent end-of-pipe effluent limitations for constituents that demonstrated reasonable potential to exceed aquatic toxicity criteria (i.e., ammonia, copper, chlordane, cyanide, diazinon, zinc and total residual chlorine).

The discharge will not produce undesirable or nuisance aquatic life, result in floating debris, oil, or scum, produce objectionable color, odor, taste, or turbidity, cause objectionable bottom deposits, or cause nuisance, because this Order requires end-of-pipe effluent limitations (e.g. for biochemical oxygen demand and total suspended solids) and discharge prohibitions to prevent these conditions from occurring.

As suggested by the SIP, in determining the extent of or whether to allow a mixing zone and dilution credit, the Regional Water Board has considered the presence of pollutants in the discharge that are carcinogenic, mutagenic, teratogenic, persistent, bioaccumulative, or attractive to aquatic organisms, and concluded that the allowance of the mixing zone and dilution credit is adequately protective of the beneficial uses of the receiving water.

The mixing zone therefore complies with the SIP. The mixing zone also complies with the Basin Plan, which requires that the mixing zone not adversely impact beneficial uses. Beneficial uses will not be adversely affected for the same reasons discussed above. In determining the size of the mixing zone, the Regional Water Board has considered the procedures and guidelines in the EPA's *Water Quality Standards Handbook*, 2d Edition (updated July 2007), Section 5.1, and Section 2.2.2 of the *Technical Support Document for Water Quality-based Toxics Control* (TSD). The SIP incorporates the same guidelines. For these reasons, the mixing zone will not be adverse to the purpose of the state and federal antidegradation policies.

### 3. Determining the Need for WQBELs

- a. CWA section 301 (b)(1) requires NPDES permits to include effluent limitations that achieve technology-based standards and any more stringent limitations necessary to meet water quality standards. Water quality standards include Regional Water Board Basin Plan beneficial uses and narrative and numeric water quality objectives, State Water Board-adopted standards, and federal standards, including the CTR and NTR. The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, and tastes and odors. The narrative toxicity objective states: *"All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life."* (Basin Plan at III-8.00.) With regards to the narrative chemical constituents objective, the Basin Plan states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, *"...water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)"* in Title 22 of CCR. The narrative tastes and odors objective states: *"Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses."*
- b. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs, the Regional Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for ammonia, bis (2-ethylhexyl) phthalate, chlordane, chlorine residual, copper, cyanide, diazinon, dichlorobromomethane, electrical conductivity, iron, pH, settleable solids, total coliform organisms, and zinc. Water quality-based effluent limitations (WQBELs) for these constituents are included in this Order. A summary of the reasonable

potential analysis (RPA) is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.

- c. The Regional Water Board conducted the RPA in accordance with Section 1.3 of the SIP. Although the SIP applies directly to the control of CTR priority pollutants, the State Water Board has held that the Regional Water Board may use the SIP as guidance for water quality-based toxics control.<sup>2</sup> The SIP states in the introduction "*The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency.*" Therefore, in this Order the RPA procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents.
- d. The Discharger indicated in the ROWD that improvements to the trickling filter resulted in increased pollutant removal for several constituents and requested that only monitoring data collected subsequent to the improvements should be evaluated for the purposes of conducting the RPA. Therefore, only monitoring data collected after 1 November 2005 was used for the RPA. Because the Discharger discharges to surface waters seasonally (1 November through 30 April), only monitoring data conducted during the discharge season was used for purposes of the RPA. Therefore, the period of data used for the RPA consisted of the following:

- 1 November 2005 – 30 April 2006
- 1 November 2006 – 30 April 2007
- 1 November 2007 – 30 April 2008

Effluent monitoring data used to conduct the RPA included data reported in SMRs and two priority pollutant scans conducted on 2 May 2007 and 2 January 2008. Order No. R5-2003-0151 only required the Discharger to monitor the surface water to which effluent was being discharged to. Because the Discharger has not previously discharged to the North Fork Calaveras River, monitoring of the North Fork Calaveras River was not performed or reported in the SMRs. The Discharger did monitor for priority pollutants in the North Fork Calaveras River on 2 May 2007 and 2 January 2008, which was used to conduct the RPA.

- e. WQBELs were calculated in accordance with section 1.4 of the SIP, as described in Attachment F, Section IV.C.4.
- f. **Aluminum.** USEPA developed National Recommended Ambient Water Quality Criteria for protection of freshwater aquatic life for aluminum. The recommended 4-day average (chronic) and 1-hour average (acute) criteria for aluminum are 87 µg/L and 750 µg/L, respectively. The Secondary Maximum Contaminant Level - Consumer Acceptance Limit for aluminum is 200 µg/L.

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<sup>2</sup> See, Order WQO 2001-16 (Napa) and Order WQO 2004-0013 (Yuba City).

Footnote L to the National Recommended Ambient Water Quality Criteria summary table for aluminum indicates that the chronic aquatic life criterion is based on studies conducted under specific receiving water conditions with a low pH (6.5 to 6.8 pH units) and low hardness (<10 mg/L as CaCO<sub>3</sub>). Limited monitoring data is available to evaluate the applicability of the chronic criterion for the discharge to the North Fork Calaveras River. However, the available monitoring data demonstrates that these conditions are not similar to those in the North Fork Calaveras River. Order No. R5-2003-0151 indicated that the minimum observed pH of the North Fork Calaveras River was 7.8 and the minimum observed hardness was 60 mg/L. The Discharger reported a minimum observed hardness value of 40 mg/L in the permit renewal application. Additionally, hardness values of 110 mg/L and 130 mg/L were observed on 2 May 2007 and 2 January 2008, respectively. Thus, it is unlikely that application of the chronic criterion of 87 ug/L is necessary to protect aquatic life in the North Fork Calaveras River and USEPA advises that a water effects ratio may be more appropriate to better reflect the actual toxicity of aluminum to aquatic organisms.

In the absence of an applicable chronic aquatic life criterion, the most stringent water quality criterion is the Secondary MCL - Consumer Acceptance Limit for aluminum of 200 µg/L. Based on input from DPH and the fact that secondary MCLs are designed to protect consumer acceptance, effluent limitations based on secondary MCLs are to be applied as an annual average concentration.

The maximum annual average effluent concentration for aluminum was 227 µg/L, based on 28 samples collected between 1 November 2005 and 30 April 2008. The maximum annual average upstream receiving water aluminum concentration was 11 µg/L, based on two samples collected on 2 May 2007 and 2 January 2008. The maximum annual average receiving water and effluent concentrations were used in the RPA for evaluating the secondary MCL based on input from the DPH and the fact that MCLs are designed to protect human health over long exposure periods. Due to the low levels of aluminum in the receiving water and the consideration of a minimum required dilution of 20:1, the effluent does not exhibit reasonable potential to exceed the Secondary MCL for aluminum.

- g. **Ammonia.** Untreated domestic wastewater contains ammonia. Nitrification is a biological process that converts ammonia to nitrite and nitrite to nitrate. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. The Discharger does not currently use nitrification to remove ammonia from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream. Ammonia is known to cause toxicity to aquatic organisms in surface waters. Discharges of ammonia would violate the Basin Plan narrative toxicity objective. Applying 40 CFR 122.44(d)(1)(vi)(B), it is appropriate to use the NAWQC for the protection of freshwater aquatic life for ammonia.

The National Ambient Water Quality Criteria for the protection of freshwater aquatic life for total ammonia, recommends acute (1-hour average; criteria maximum concentration or CMC) standards based on pH and chronic (30-day average; criteria continuous concentration or CCC) standards based on pH and temperature. USEPA also recommends that no 4-day average concentration should exceed 2.5 times the 30-day CCC. USEPA found that as pH increased, both the acute and chronic toxicity of ammonia increased. Salmonids were more sensitive to acute toxicity effects than other species. However, while the acute toxicity of ammonia was not influenced by temperature, it was found that invertebrates and young fish experienced increasing chronic toxicity effects with increasing temperature. Because the North Fork Calaveras River has a beneficial use of cold freshwater habitat and the presence of early fish life stages in the North Fork Calaveras River is likely during the permitted period of discharge, the recommended criteria for waters where salmonids and early life stages are present were used.

The maximum permitted effluent pH is 8.5, as the Basin Plan objective for pH in the receiving stream is the range of 6.5 to 8.5. In order to protect against the worst-case short-term exposure of an organism, a pH value of 8.5 was used to derive the acute criterion. The resulting acute criterion is 2.14 mg/L.

Downstream temperature and pH data is not available. Therefore, effluent temperature and pH data from the Discharger's monthly monitoring reports from 1 November 2005 and 30 April 2008 were used to develop the chronic criteria. Using effluent data, the 30-day CCC was calculated for each day when temperature and pH were measured. The resulting lowest 99.9% 30-day CCC is 4.34 mg/L (as N). The 4-day average concentration is derived in accordance with the USEPA criterion as 2.5 times the 30-day CCC. Based on the 30-day CCC of 4.34 mg/L (as N), the 4-day average concentration that should not be exceeded is 10.9 mg/L (as N).

The Regional Water Board calculates WQBELs in accordance with SIP procedures for non-CTR constituents, and ammonia is a non-CTR constituent. The SIP procedure assumes a 4-day averaging period for calculating the long-term average discharge condition (LTA). However, USEPA recommends modifying the procedure for calculating permit limits for ammonia using a 30-day averaging period for the calculation of the LTA corresponding to the 30-day CCC. Therefore, while the LTAs corresponding to the acute and 4-day chronic criteria were calculated according to SIP procedures, the LTA corresponding to the 30-day CCC was calculated assuming a 30-day averaging period. The lowest LTA representing the acute, 4-day average, and 30-day CCC is then selected for deriving the AMEL and the MDEL. The remainder of the WQBEL calculation for ammonia was performed according to the SIP procedures.

The MEC for ammonia was 14 mg/L, based on 60 samples collected between 1 November 2005 and 30 April 2008, while ammonia was not detected in the upstream receiving water. Therefore, ammonia in the discharge has a